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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,034	08/16/2006	Kenichi Suzuki	018842.1504	9376

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EXAMINER

NORMAN, MARC E

ART UNIT	PAPER NUMBER
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3744

NOTIFICATION DATE	DELIVERY MODE
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02/13/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/598,034	Applicant(s) SUZUKI, KENICHI	
	Examiner Marc E. Norman	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 8 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/21/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 2 and 9-11 are objected to because of the following informalities: Each of claims 2, 9, and 10 recite the conjunction “or/and”. Since "or" and "and" imply different scopes to the associated lists of limitations, it is unclear as to the scope of the claim. “Or/and” should be changed simply to “or”. Claim 11 is objected to since it depends from claim 9. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Akihiro et al. (JP 5106931).

As per claim 1, Akihiro et al. discloses a fixed capacity compressor 3, a variable capacity compressor 2, compressor displacement calculation/control means based on thermal load, wherein the control calculating equations are different for when the variable capacity is the sole operating compressor and when both compressors are operating (see different algorithms 13-1, 13-2, and 13-3 described in constitution section of Abstract). It is further noted that such compressor control according to load is a feed forward type of control.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2-4, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akihiro et al. as applied to claim 1, above, and further in view of Masato et al. (JP 2003211953) and Ota et al.

As per claims 2, 4, and 7, Akihiro et al. do not teach controlling based on the rotational speed of a prime mover or the running speed of a vehicle. Masato et al. teach applying a dual fixed and variable compressor arrangement similar to that of Akihiro et al. to a vehicle based on thermal load. Further, it is generally old and known in the art to control a vehicle compressor according to the rotational speed of a prime mover or the running speed of a vehicle. Ota et al., for example, teaches controlling compressor capacity based on engine rotational speed (Abstract; column 7, line 62 – column 8, line 42; etc.). It would have been obvious to one of ordinary skill

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in the art at the time the invention was made to combine such engine rotational speed based controls to the dual compressor systems of Akihiro et al. and Masato et al. for the purpose of improving system performance.

As per claim 3, official notice is taken that these are all common and known parameters for calculating a thermal load.

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akihiro et al. as applied to claim 1 above, and further in view of Niimi et al.

As per claims 5 and 7, Akihiro et al. does not teach controlling according to a target evaporator temperature. However, it is old and known in the art to control compressor capacity according to evaporator temperature. Niimi et al., for example, teach such controls (see for example column 17, lines 9-19). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine these teachings of Niimi et al. to the system of Akihiro et al. for the purpose improving the efficiency of the air conditioning system.

As per claim 6, see discussion of similar claim 4 above.

Claims 9, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akihiro et al. in view of Niimi et al. as applied to claims 1 and 7, above, and further in view of Masato et al. and Ota et al.

As per claims 9, 11, and 12, Masato et al. and Ota et al. teach the controlling a vehicle compressor according to the rotational speed of a prime mover or the running speed of a vehicle as discussed above regarding similar claim 2-4, respectively.

Allowable Subject Matter

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Claims 8 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc E. Norman whose telephone number is 571-272-4812. The examiner can normally be reached on Mon.-Fri., 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MN

/Marc E. Norman/
Primary Examiner, Art Unit 3744

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